NOTES ON NEW SPECIES OF AMNICOLIDÆ COLLECTED BY DR. RUSH IN URUGUAY.

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Full descriptions of the new forms collected by Dr. Rush will appear as soon as illustrations can be prepared. Meantime, the following notes on the Amnicoline species may be of service.

The South American fresh water Hydrobioids fall into three or four genera: POTAMOPYRGUS Stimpson, apparently confined to the extreme northern border of the continent, and perhaps to be regarded as a straggler from the Antillean and Middle American fauna. LITTORIDINA Eydoux & Souleyet, a characteristic South American genus of slender, acute shells, usually called "*Paludestrina*," "*Hydrobia*" or *Heleobia* Stimp. LYRODES Doering, possibly a group subordinate to *Potamopyrgus*. LITHOGLYPHUS of authors, stout of figure, thick and strong, the American forms with the lip expanded or having an external varix, or contracted by a callous deposit within the posterior angle in fully adult examples. These seem to me to differ conchologically from the European types sufficiently to call for generic distinction, and the new term

POTAMOLITHUS

may be applied to them. Type *P. Rushii*.

The genus *Cochliopa* Stimpson, with two Central American species, *C. Rowelli* Tryon and *C. Tryoniana* Pils., is like *Potamolithus* in the solidity of the shell, but it is heliciform and umbilicated. *Lacunopsis* and *Jullienia*, two Cambodian genera, are evidently near akin to the South American *Potamolithus* (see Journ. de Conchyl. 1881, p. 1).

The peculiarly striking modifications of the species of this genus are scarcely paralleled in recent fresh water prosobranchs outside of Lakes Tanganyika or Baikal. They cannot well be appreciated without the aid of figures, which the writer intends publishing as soon as practicable. Until then, the species may be discriminated by the following diagnoses, which for more ready reference have been cast into the form of a key. The characters of previously known species are much abridged.

1. Columella with a longitudinal groove or pit; outer lip with a strong varix.

a. Depressed; periphery with a strong, cord-like keel; back of body whorl gibbous below suture; umbilical area moderate or large, bounded by a keel. Alt. 5·2, diam. 6 mm. P. RUSHII n. sp.

aa. Globose, without keels; periphery rounded; no ridge or hump on the back; umbilical area small, with angular edge; yellowish or olivaceous-brown, unicolored or with subsutural and superperipheral green bands. Alt. 5, diam. 5·4 mm. P. IHERINGI n. sp.

II. No groove on face of the columella.

a. With 5 or 6 spiral keels, all, or the upper two with acute tubercles: operculum with several whorls. Alt. 8–9, diam. 10 mm. P. MULTICARINATUS Mill.

aa. Shell carinated or angulate, without tubercles.

b. Peripheral keel visible on the penultimate as well as the last whorl; lip expanded or varixed.

c. Trochoidal, with acutely, straightly conic spire, compressed median peripheral keel, a small subsutural carina, and a basal keel defining a very large umbilical tract. Aperture much contracted, the lip varix very high, recurved above periphery, the highest point of recurved lobe connected with lip-edge by a short oblique rib. Alt. 5·2, diam. 6 mm. P. MICROTHAUMA n. sp.

cc. Trochoidal, with high conic spire and flattened base and acute peripheral keel; surface smooth above and below the keel, whorls flat above, the base slightly convex; umbilical area very narrow, inconspicuous; lip varix narrow, near the lip edge. Alt. 5, diam. 5 mm. P. HIDALGOI n. sp.

ccc. Elevated turbinate, with an acute peripheral keel, convex above and below it; lip expanded. Alt. 5, diam. 5 mm. P. PERISTOMATUS Orb.

bb. Peripheral keel or angle concealed on the penultimate whorl.

c. Lip varix very strong, recurved above; periphery hardly angular, base convex, back of body whorl with a spiral rib below the suture; aperture much contracted; no columellar area defined. Alt. 5, diam. 5½ mm. P. DINOCHILUS n. sp.

cc. Varix, expansion or contraction of the lip rather weak or inconspicuous.

d. Keeled or angular at the basal periphery, rounded or flattened above the keel.

e. Columella wide and heavy; alt. 4·6, diam. 4·4 mm. P. BUSCHII 'Dkr.' Ffld.

ee. Columella narrow; alt. 4·3, diam. 3·2 mm. P. CONICUS Brot.

dd. Body whorl squarish, the angles rounded; columella rather wide; umbilical crescent defined by a carina; lip with a narrow varix. Alt. 5. diam. 4½ mm.

P. ORBIGNYI n. sp.

ddd. A carina at the basal periphery, and two approximate keels on the back above.

P. TRICOSTATUS Brot.

dddd. Periphery and base well rounded; a wide shallow sulcus or two low carinæ on the back above. Alt. 5·5, diam. 4·8 mm.

P. LAPIDUM SUPERSULCATUS n. v.

aaa. Whorls rounded, without spiral keels, angles or sulci.

b. Globose or globose-conic; peristome not nicked or sinuous.

c. Not banded; last whorl rounded; aperture slightly contracted P. LAPIDUM Orb.

cc. 3-banded: lip and columella thin.

P. PETITIANUS Orb.

bb. Ovate, the outer or basal lip sinuous or nicked.

c. Outer lip expanded or flaring, its face thickened, with two or three nicks or sinuses. Alt. 5, diam. 4·3 mm. P. SYKESII n. sp.

cc. Outer lip thin, unexpanded.

d. Outer lip produced in a broad tongue or lobe, a deep rounded sinus above and below. Alt 5, diam. 4 mm.

P. BISINUATUS n. sp.

dd. Similar, but the upper sinus obsolete.

P. BISINUATUS OBSOLETUS n. v.

ddd. Much more slender; outer lip retracted at insertion above, sinused at base. Alt. 4·6, diam. 3·1 mm. P. GRACILIS n. sp.

dddd. Similar, but with a rounded sinus in the outer lip above; green.

P. GRACILIS VIRIDIS n. v.

The operculum of *P. multicarinatus* Miller has more whorls than those of the other species, and may eventually be placed in a new genus.

P. bisinuatus might be regarded as an immature stage of *P. Sykesii* were it not that until the lip expansion of the latter is fully developed no trace of sinuation occurs, the sinuses being developed in the thickened margin beyond the expansion.

The variety of *P. lapidum* described and figured by Strobel (Mater. Malac. Argent.) from a single shell, does not seem to have sufficiently tangible characters for recognition as distinct from typical *lapidum*.

P. dinochilus closely resembles *P. microthauma* in characters of the lip varix and aperture, and it may possibly prove to be a form of that species when extensive series of each are collected; but the other features of the shells are so strikingly different and so constant in the series before me, that their union would not be justified with present knowledge.

Certain forms of *P. Bushii* have two weak keels on the back and offer an approach to *P. tricostatus*, and the two may prove to be specifically the same, although proof is lacking that this is the case. In *P. Buschii* the keels or sulcus on the back are weaker when present, the umbilical crescent is larger and angular, and the form less elevated.[1]

[1] Since the above table has been in type, I have received Mr. E. R. Sykes' notes on certain species which he was so kind as to compare at my request, with d'Orbigny's types in the B. M. "*Potamolithus lapidum*. Compared with the typical series your shells differ a bit in the aperture being somewhat pyriform, while those of the museum series are more rounded. Still they are, I think, the same species. There is only one tablet, and this contains one of your variety [*supersulcatus*] mingled with the rest, as also one specimen which is not the same species but may be *Petitiana*.

"*P. Sykesii*. I think that this is only a form of Petitiana; there are however only two specimens, both immature, of this last species in the museum." [I had supposed d'Orbigny's shells were mature, and therefore separated *Sykesii* on the ground of its peculiar peristome. It remains to be seen whether adult *Petitiana* will prove to have the same characters, but I agree with Mr. Sykes that it is likely].

P. gracilis. This is distinct from *picium*, which is a thinner and slighter-built species, [and does not show the same apertural characters.]